

REMARKS

Claims 1-3, 5, 7, 9 and 12-18 are now pending in the application. Claims 1-3, 5, 9, 12 and 13 have been amended herein. Claims 4, 6, 8 and 10-11 have been canceled. Claim 18 has been added. Support for the foregoing amendments can be found throughout the specification, drawings, and claims as originally filed. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

Examiner Interview

Applicant thanks the Examiner for the telephonic interview conducted on June 29, 2010 between Examiner Ghowrwal and Applicant's Attorney Brian Carlson. In the interview, the parties discussed the amendments and arguments presented herein, and discussed the potential allowability of independent claims 1 and 5 if dependent claims 10 and 11 were incorporated into them.

Claim Objection

Claim 12 has been objected to because "the transport network" lacks proper antecedent basis. "The transport network" has been amended as "a transport network" in amended claim 12.

Novelty Rejections

Claims 1-3, 5, 12, 13, 15 and 16 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Billhartz et al. (U.S. Publication No. 2003/0204616, hereinafter "Billhartz"). Applicant respectfully traverses these rejections.

Claim 1, as amended, recites a system of dynamic QoS negotiation in Next Generation Network (NGN), comprising:

a Resource and Admission Control Subsystem (RACS), a Transport Functional (TF) entity, a Service Control Functional (SCF) entity and a Network Attachment Subsystem (NASS), wherein:

the RACS has interfaces with the TF entity, the SCF entity and the NASS;

the SCF entity, configured to receive a service request from a user terminal, when the service request does not carry QoS requirement parameters of a service of the user terminal, determining, by the SCF entity, the type of the service in accordance with the service request, and determining the QoS requirement parameters required for the service in accordance with the service type; when the service request carries the QoS requirement parameters of the service, obtaining, by the SCF entity, the QoS requirement parameters of the service by parsing the service request;

the RACS, configured to process a resource reservation request required for the service of the user terminal and obtain QoS requirement parameters required by the service from the resource reservation request, perform authentication and determine admission control decision parameters based on the QoS requirement parameters in accordance with operation policy rules, and a user profile stored in the NASS and availability of transport network resources, and send the admission control decision parameters to the TF entity for execution;

the TF entity, configured to ensure QoS of the service of the user terminal according to the admission control decision parameters;

wherein when the user terminal is a mobile terminal, the SCF entity sends a resource authentication request containing the QoS requirement parameters of the service to the RACS via a corresponding interface with the RACS, the RACS notifies the user terminal via the SCF entity after authenticating successfully, and the user terminal initiates a resource reservation request to the TF entity of the network via a path-coupling QoS signaling carrying the QoS requirement parameters of the service; handling by the TF entity at a network boundary the QoS signaling and sending a resource reservation request containing the QoS requirement parameters of the service to the RACS via a corresponding interface with the RACS; and

wherein when a token mechanism is used, the RACS returns an admission token to the user terminal via the SCF entity after authenticating successfully and checks whether a resource reservation request has passed the authentication and searching for relevant information of the service in accordance with the admission token, and wherein the admission token is carried in a path-coupling QoS signaling

and transferring the admission token to the RACS via the resource reservation request.

Billhartz describes a mobile ad hoc network. The network includes a plurality of wireless mobile nodes and a plurality of wireless communication links connecting the plurality of nodes together. A method includes transmitting quality-of-service (QoS) route requests to discover traffic routing based upon a QoS parameter, each node calculating a node QoS tag value to make traffic admission control decisions, the node QoS tag value being a function of at least one node specific metric, and each node determining whether to admit traffic in response to QoS route requests based upon the calculated QoS tag value and the QoS parameter of QoS route requests.

In amended claim 1, the system includes a RACS, a TF entity, a SCF entity and an NASS, and **each entity has its own recited function**. For example, the SCF entity receives a service request and determines the QoS requirement parameters required for the service. The RACS obtains QoS requirement parameters required by the service. The TF entity ensures QoS of the service. However, in Billhartz, each wireless mobile node calculates a node QoS tag value and each wireless mobile node determines whether to admit traffic in response to QoS route requests. Thus, it can be seen that the RACS, TF entity, SCF entity and NASS in amended claim 1 are different from the wireless mobile node in Billhartz.

Regarding paragraphs [0032]-[0034] and Figs. 1-5 of Billhartz, the network includes source node 1, destination node 4 and intermediate nodes, e.g. 2, 3, 5. A route request RREQQ from **the source node 1 to discover routing to the destination node 4** is **based upon a QoS parameter**. Because the source node 1 needs to discover routing to the destination node 4, **each node needs to determine whether the node can support**

the requested QoS parameter of the QoS route request RREQQ. If a node can provide support, the node forwards the QoS route request RREQQ to following nodes. If a node cannot provide support, the request is denied or simply not forwarded by the node. Upon receiving the QoS route request RREQQ, the destination node 4 generates a reply RREPQ to the source node 1 from discovered routers. The source node 1 then selects a route (for example, 1-2-4 or 1-3-5-4) to the destination node 4 and the source node 1 transmits route confirmations CONFQ to intermediate nodes on the selected route.

In contrast, in amended claim 1, based on the limitations of the claim there is no need to discover a route and select the route including a plurality of nodes which can support the requested QoS parameter of the QoS route request RREQQ. Furthermore, the SCF entity (regarded as source node in Billhartz in the office action) receives a service request and determines the QoS requirement parameters required for the service. The RACS (regarded as destination node in Billhartz in the office action) obtains QoS requirement parameters required by the service, determines admission control decision parameters and sends the admission control decision parameters to the TF entity. The TF entity (regarded as source node in Billhartz in the office action) ensures QoS of the service according to the admission control decision parameters. The SCF entity and TF entity are different entities, that is, the RACS does not receive and reply to the same entity in a QoS negotiation process. Thus, the method of dynamic QoS negotiation in amended claim 1 is very different from discovering a route in Billhartz.

Amended claim 1 also describes the SCF entity receiving a service request from a user terminal, when the service request does not carry QoS requirement parameters of a service of the user terminal, determining the type of the service in accordance with the

service request, and determining the QoS requirement parameters required for the service in accordance with the service type; when the service request carries the QoS requirement parameters of the service, obtaining the QoS requirement parameters of the service by parsing the service request. These features also are not disclosed in Billhartz.

Amended claim 1 further includes the features of original claims 10 and 11 and original claims 10 and 11 have been deleted accordingly. These features also are not disclosed in Billhartz.

Thus, Applicant respectfully submits that Billhartz does not teach or suggest all of the limitations of amended claim 1. Therefore, amended claim 1 meets the requirements of 35 U.S.C. § 102(b).

Dependent claims 2, 3 and new claim 18 directly or indirectly depend from amended independent claim 1, as well as incorporate additional features, so all these dependent claims also meet the requirements of patentability for at least the same reasons.

Obviousness Rejections

Claim 1 has been amended by adding the features of claims 8, 10 and 11. Claims 8 and 10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Billhartz in view of Lee et al. (U.S. Publication No. 2003/0129988, hereinafter “Lee”). Claim 11 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Billhartz in view of Lee and Bernet et al. (U.S. Publication No. 2004/0022191, hereinafter “Bernet”).

Lee discloses the BSC determining whether the call requires the QoS service by checking whether a QoS parameter is included in a Call-Establishment-Req message. If the QoS parameter is not included, the BSC requests the profile of a user for which the

call is to be set up from the profile server and acquires it. The BSC then determines whether a required QoS parameter can be provided by checking the received user profile. If the user profile includes the QoS parameter, the BSC controller goes to step 512 (radio resource available).

Amended claim 1 describes the SCF entity receiving a service request from a user terminal, when the service request does not carry QoS requirement parameters of a service of the user terminal, **determining the type of the service in accordance with the service request, and determining the QoS requirement parameters required for the service in accordance with the service type**; when the service request carries the QoS requirement parameters of the service, obtaining the QoS requirement parameters of the service by parsing the service request.

In contrast, Lee still obtains the QoS parameter from a predetermined QoS parameter contained in the Call-Establishment-Req message or a predetermined QoS parameter contained in the user profile. This is different from the feature of “determining the type of the service in accordance with the service request, and determining the QoS requirement parameters required for the service in accordance with the service type” in amended 1. Furthermore, Billhartz and Bernet do not teach or suggest these features.

Thus, Applicant respectfully submits that Billhartz in view of Lee and Bernet do not teach or suggest all of the limitations of amended claim 1. The other cited references also fail to teach these features in amended claim 1. Therefore, amended claim 1 meets the requirements of 35 U.S.C. § 103(a).

Independent amended claim 5 describes a method containing limitations similar to those in amended system claim 1. As can be seen from the above, amended claim 5 also meets the requirements of 35 U.S.C. § 102(b) and 35 U.S.C. § 103(a).

Dependent claims 7, 9 and 12-17 directly or indirectly depend from amended independent claim 5, as well as incorporate additional features, so all these dependent claims also meet the requirements of patentability for at least the same reasons.

Conclusion

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action and the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested.

The Commissioner is hereby authorized to charge any fees that are due, or credit any overpayment, to Deposit Account No. 50-1065.

Respectfully submitted,

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